IN THE CLAIMS:

1. (currently amended) A three-dimensional liquid detection sensor comprising:

a three-dimensional (3D) liquid detection field <u>including:</u>

<u>a first electrically conductive trace connected to a first electrical contact, with a first plurality of pins extending from the first trace at least partially covered by an electrical insulator; and,</u>

<u>a second electrically conductive trace connected to a second electrical contact, with a second plurality of pins extending from the second trace at least partially covered by an electrical insulator</u>; and,

a first electrical connector to supply a resistance measurement responsive to liquid in the detection field.

2. (original) The sensor of claim 1 wherein the first electrical connector includes a first electrical contact and a second electrical contact.

3. (original) The sensor of claim 2 wherein the first electrical connector is shaped to electrically connect and physically engage a first mating connector with a pair of electrical contacts.

4. (original) The sensor of claim 2 wherein the sensor includes a second electrical connector with a pair of electrical contacts.

5. canceled

6. (currently amended) The sensor of claim [[5]] 1 wherein each pin has an axis aligned in a first plane.

7. (currently amended) The sensor of claim [[5]] 1 wherein each pin has a right-angle shape.

8. (currently amended) The sensor of claim [[5]] 1 wherein the first plurality of pins each have an axis aligned in a first plane; and,

wherein the second plurality of pins each have an axis aligned in a second plane, different from the first plane.

9. (currently amended) The sensor of claim [[5]] 1 wherein a plurality of pins each includes a building material attachment barb attached to a pin proximal end.

10. (currently amended) The sensor of claim [[5]] 2 wherein the detection field additionally includes:

a dielectric sheet;

wherein the [[a]] first electrically conductive trace is formed overlying the dielectric sheet ~~and connected to the first electrical contact~~;

wherein the [[a]] second electrically conductive trace is formed overlying the dielectric sheet ~~and connected to the second electrical contact;~~

~~wherein the first plurality of pins extend from the first trace; and,~~

~~wherein the second plurality of pins extend from the second trace~~.

11. (currently amended) The sensor of claim [[5]] 1 wherein each pin has a cross-sectional axis diameter in the range of 0.01 to 0.3 inches.

12. (currently amended) The sensor ~~method~~ of claim [[5]] 1 wherein each pin has a length in the range of 0.25 to 5 inches.

13. (currently amended) The sensor ~~method~~ of claim [[5]] 1 wherein the detection field is a drywall interface and the length of each pin varies in the range of 0.375 to 0.5 inches.

14. (currently amended) The sensor ~~method~~ of claim [[5]] 1 wherein the detection field is an insulation interface and the length of each pin varies in the range of 1.5 to 5 inches.

15. (currently amended) The sensor ~~method~~ of claim [[5]] 1 wherein the detection field is a carpet interface and the length of each pin varies in the range of 0.25 to 0.375 inches.

16. (currently amended) The sensor ~~method~~ of claim [[5]] 1 wherein the separation between a pin from the first plurality of pins, and an adjacent pin from the second plurality of pins, is in the range of 0.1 to 2 inches.

17. (currently amended) The sensor of claim 10 wherein a plurality of pins are selectively detachable, at [[the]] a distal end, from the electrically conductive traces.

18. (currently amended) The sensor of claim [[10]] 1 wherein a plurality of pins each include:

an electrically insulated shoulder covering a [[the]] distal end; and,

an electrically conductive proximal end.

19. (original) The sensor of claim 10 wherein the dielectric sheet is rigid.

20. (original) The sensor of claim 10 wherein the dielectric sheet is flexible.

21. (currently amended) The sensor of claim 10 wherein a plurality of pins each include a compressible spring connection between [[the]] a distal end of the pin, and the electrical trace from which the pin extends.

22. (original) The sensor of claim 2 wherein the first electrical connector includes spring-loaded jaws to capture a wire.

23-61. canceled

62. (currently amended) A three-dimensional (3D) water detection method comprising:

forming a 3D water detection field in a material, the 3D water detection field including:

a first electrically conductive trace connected to a first electrical contact, with a first plurality of pins extending from the first trace at least partially covered by an electrical insulator; and,

a second electrically conductive trace connected to a second electrical contact, with a second plurality of pins extending from the second trace at least partially covered by an electrical insulator; and,

supplying an electrical resistance responsive to liquid in the material.

63. (new) The sensor of claim 1 further comprising:

an alarm having an input interfacing the electrical connector.

64. (new) A three-dimensional liquid detection sensor comprising:

a three-dimensional (3D) liquid detection field including:

a dielectric sheet;

a first electrically conductive trace formed over the dielectric sheet and connected to a first electrical contact, with a first plurality of pins extending from the first trace in an axis aligned with a first plane;

a second electrically conductive trace formed over the dielectric sheet and connected to a second electrical contact, with a

second plurality of pins extending from the second trace in an axis aligned with the first plane; and,

an electrical connector to supply a resistance measurement responsive to liquid in the detection field.